

IN THE SPECIFICATION:

Please replace the following paragraphs on pages 3 and 4.


[0011] A conductive apparatus has an alignment feature integral therewith. In one embodiment, the conductive apparatus comprises a lead frame and the alignment feature comprises an alignment tab. The alignment tab can have a number of shapes, including, but not limited to, generally square or circular shapes. In addition, the alignment tab or tabs can include two or more apertures for additional alignment options. The alignment feature can also comprise a semicircular shaped cut out on one or more edges of the lead frame. The cut out can be formed in other shapes, such as square or angular shapes.

[0012] Alternatively, an integrated circuit is provided which comprises, in part, a lead frame, a semiconductor die coupled with the lead frame, an alignment feature disposed on the lead frame, and insulating material encompassing the die and a portion of the lead frame. The lead frame has a plurality of conductors which extend out of the insulating material. In one embodiment, the alignment feature comprises an alignment tab. The alignment tab can be removably coupled with the lead frame, for instance, with a perforation line. When an integrated circuit manufacturer desires to remove the alignment tab, the tab is folded over the perforation line until the tab is severed from the lead frame.

Please replace the following paragraph on page 6.

[0028] After the fabricated silicon wafers reach assembly, the dice are then carried through a number of steps to become individual units in leaded packages. After packaging, tests are performed to ensure that the system meets timing requirements and no defects have occurred during the packaging process and/or burn-in. The testing process can include testing at several temperatures to assure performance specifications are met. For each process, it is significant to have the proper alignment of conductors of the lead frames with the testing assembly.


Please replace the following paragraphs on pages 8 and 9.



[0036] Figure 4 illustrates another embodiment of the present invention. A VSMP integrated circuit 400 is provided with a lead frame 420 having alignment features 410. The lead frame 420 has leads 430 and an alignment portion 422. The alignment portion 422 includes a tie bar 424 and also other parts of the lead frame 420 which provide internal support to the integrated circuit package. However, the alignment portion 422 does not include outer rails (not shown) or an outer frame (not shown) which are used during the encapsulation process. The lead frame 420 has alignment cut outs 450 integral therewith, disposed within the alignment portion 422. The alignment cut outs 450 are sized large enough such that mold flash from encapsulation, discussed below, will not interfere with nor fill in the alignment cut out 450. In one embodiment, the alignment cut out 450 has a semicircular shape. Alternatively, other shapes could be used for the alignment cut out 450.

[0037] A semiconductor die 460 includes circuitry formed thereon. A plurality of bond pads 464 is formed around the periphery of the die 460. The semiconductor die 460 is mounted to the lead frame 420 using leads over chip (LOC) methods, as is known in the art. Electrically conductive wire bonding 480 is used to connect selected bond pads 464 on the die 460 to selected leads 430 or conductors of the lead frame 420.

Please replace the following paragraph on page 11.



[0045] Advantageously, the alignment tabs and the alignment cut outs on the lead frame allow for more precision during alignment of the integrated circuit during testing. The alignment features assist in achieving higher yields after lead conditioning and after testing. During testing, yield loss can occur due to misconnection at test. The alignment features reduce rejects in testing for bent leads caused by improper alignment of the test contacts. The step of retesting of parts failing initial testing due to misalignment is eliminated. The scan time is reduced since the parts can be pre-aligned in the shipping and handling tray. The end user benefits since the parts have

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built-in alignment features for better placement accuracy. In addition, the built-in features are inexpensive to incorporate into existing designs.
